

The *Tentacles* are long and stout, they are situated on a very strong muscular ring, and are about sixty in number; they are all of much the same size, a few are slighter than the rest, but are not placed regularly.

The *Dorsal Tubercle* is cordate and very large (measuring 3·5 millimetres antero-posteriorly); the horns are very long, and are both coiled inwards spirally.

The *Alimentary Canal* is wide. The œsophageal opening is situated at about three-quarters of the distance from the anterior to the posterior end of the branchial sac.

This large species has a characteristically solid and cartilaginous test, and may be considered the type of the genus *Pachychlæna*. In both the specimens part of the ventral edge, the posterior end, and a portion of each side is wanting. Still enough remains, taking both specimens together, to enable us to form a pretty complete idea of the original shape and proportions (Pl. XXVIII. fig. 6, which is formed by combining parts of the two).

Some parts of the surface are incrustated with a brownish Alga, while Polyzoa, Hydroids, Cirripedes, Compound Ascidiæ, &c., adhere to or are imbedded in the substance of the test. The proportions of the two specimens vary slightly; they are as follows:—

Length of the body.	Greatest breadth.	Distance from the centre of the branchial to the centre of the atrial aperture.
A. 12 cm.	(Dorso-ventral) 7 cm.	4·5 cm.
B. 12·4 cm.	(Right to left side) 5·8 cm.	7 cm.

The test, which is probably the thickest and most solid known among Simple Ascidiæ, is light-coloured throughout; it contains numerous blood-vessels, and, in the outer layers small bladder cells and yellow pigment cells. The crystals found on the vessels in the test are rod-like or more irregular, large and of a distinct yellow colour on the larger branches, while on the terminal twigs they are smaller, tapering, disposed in radiating bunches, and generally colourless (Pl. XXIX. fig. 10). I think it is probable that all these deposits are due to post-mortem changes, caused possibly by the alcohol, and that they do not exist in the living test.

The body when removed from the test is so shrunken as only to occupy about half its cavity.<sup>1</sup> The siphons are very long, especially the branchial, and diverge at an angle of more than 90°. The right (branchial) side of the body is flat, while the left is enormously developed, the viscera forming a large projection. In consequence of this the body appears to have three sides,—a right and two left (one dorsal and the other ventral),—or in other words, is roughly triangular in transverse section. The cloaca is filled with light grey, gelatinous fæcal matter.

The branchial sac is peculiarly thick and opaque, and the wide network of larger vessels on the external surface (Pl. XXVIII. fig. 8, *e.l.* and *tr.*) gives it a very coarse appearance.

<sup>1</sup> This is after about six years' immersion in alcohol.